

REMARKS

Claims 1-13 are pending in the above-identified application.

Allowable Claims 5 and 13

Claims 5 and 13 have been indicated as being allowable and are merely objected to as being dependent upon rejected based claims.

Issues under 35 U.S.C. 102 and 103

Claims 1 and 3 have been rejected under 35 U.S.C. 102(b) as being anticipated by Ota '008 (Japanese Patent Publication No. 06-57008 and English translation thereof).

Claims 2 and 10-12 have been rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as being obvious over Ota '008.

Claims 4 and 12 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Ota '008 in view of Fenton '224 (USP 4,584,244).

Claims 1-3, 10 and 11 have been rejected under 35 U.S.C. 102(e) as being unpatentable over Itoh '786 (USP 6,610,786).

All of the above-noted rejections are traversed for the following reasons.

It appears to be the position of the Examiner that Ota '008 discloses an embodiment in which the copolymer (C) is "melt-kneaded" first by a "side feeder" and subsequently by an extruder

together with the resins (A) and (B). Perhaps the strongest support for this position is the sentence bridging pages 13-14 of the English translation of Ota '008 which reads:

The method for manufacturing the resin composition of the present invention is a method that feeds the above-mentioned components (A) and (B) to the above-mentioned extruder by the main feeder, melt-kneads them and melt-kneads the component (C) by the side feeder, so that a resin composition is manufactured by only one cycle of melt-kneading.

It is the position of the Examiner that this sentence suggests an embodiment in which there are two melt-kneading steps and that this sentence suggests two different embodiments, one of which is a single cycle of melt-kneading and a second embodiment being the combination of a first step of "blending" components (A) and (B), followed by melt-kneading components (A)/(B) which apparently suggests that component (C) is also melt-kneaded in a side feeder before component (C) is again melt-kneaded in the extruder with components (A) and (B).

Present Invention

The present invention as recited in the presently rejected claims requires a rubber component be melt-kneaded in a first step, followed by melt-kneading molten rubber together with a thermoplastic resin in an extruder. The cited references fail to disclose or suggest this combination of two melt-kneading steps.

Distinctions Between Present Invention and Ota '008

Ota '008 discloses a process which includes "only one cycle of melt-kneading" as noted at the top of page 14 of the English translation thereof. Applicants submit that a correct interpretation of the sentence bridging pages 13-14 of the English translation of Ota '008 reads as follows:

The method for manufacturing the resin composition of the present invention is a method that feeds the above-mentioned components (A) and (B) to the above-mentioned extruder by the main feeder, melt-kneads them and melt-kneads the component (C) fed to the above-mentioned extruder by the side feeder, so that a resin composition is manufactured by only one cycle of melt-kneading.

The next sentence which mentions blending of components (A) and (B) describes the "feed method" but does not mention anything regarding "melt-kneading". It is submitted that a correct and consistent interpretation of Ota '008 follows the above-noted corrected quotation with only one melt-kneading step or "cycle".

In view of the interpretation of Ota '008 described immediately above, it is submitted that Ota '008 fails to disclose the combination of two melt-kneading steps required by the process of the present invention.

Second, if "melt kneads component (C) by the side feeder" is interpreted in the way the Examiner asserts, the passage that follows this passage, that is, "so that a resin composition is manufactured by only one cycle of melt-kneading", is meaningless.

Please note that this passage recites "melt-kneading" and not "melting". If the "melting-kneading" of component (C) occurs in the side feeder and again in the extruder, one of ordinary skill in the art would immediately recognize that this is two cycles of "melt-kneading".

Third, Applicants respectfully point out that at page 14, at lines 4 to 1 from the bottom, Ota '008 suggests a preferable length after the side feeder and recites "If the length is shorter than that, the components cannot be melted, and vents are increased . . ." In other words, if component (C) is already melted and kneaded in the side feeder, component (C) would not have to be melted again and a long length after the side feeder would not be required for melting the components.

Moreover, if component (C) is melted and kneaded in the side feeder, Ota '008 should refer to the temperature of the side feeder. However, Ota '008 merely mentions the temperature of the barrel of the extruder (see, for example, page 14, lines 9-12 as well as application example 1). Applicants submit that because (C) is not melted in the side feeder, there is no need to mention the temperature of the side feeder. Consequently, this is why no temperature is mentioned.

Consequently, in view of the above, it is submitted that significant patentable distinctions exist between the present

invention and Ota '008 such that all of the above-noted rejections depending upon this reference should be withdrawn.

Distinctions Between Present Invention and Fenton

Fenton '244 discloses free-flowing, reagglomeration-resistant powders that are prepared by utilizing finely divided polymer particles coated with alumina. The alumina-coated polymer powder are said to exhibit cold-flow reagglomeration-resistance behavior and, when added to solvents specific for the alumina-coated polymer, are said to dissolve very rapidly.

Fenton '244 fails to disclose or suggest any rubber melt or the use of an extruder as in the process of the present invention. Fenton '244 is farther removed from the present invention than Ota '008 and fails to make up for the deficiencies thereof. Consequently, significant patentable distinctions exist between the present invention and Fenton '244 such that the rejection based on this reference as noted above should be withdrawn.

Distinctions Between Present Invention and Itoh '786

Itoh '786 discloses a thermoplastic elastomer which includes (A) a crystalline polyolefin resin, and (B) a cross-linked rubber component which is produced by a method that includes steps of melt-kneading the crystalline polyolefin resin together with the

rubber component in a first extruder in the presence of a cross-linking agent as noted in column 8, lines 31-35. Itoh '786 discloses that a presence of a cross-linking agent is required and allows for the described thermoplastic elastomer product to exhibit the well balances properties among elasticity, moldability, heat resistance and appearance as noted specifically at column 5, lines 52-56.

Itoh '786 fails to disclose or suggest a process for producing a thermoplastic resin and rubber containing composition without the presence of a cross-linking agent as in the process of the present invention. Note that present claim 1 has been amended so as to recite that the resulting composition "[consists] essentially of" a thermoplastic resin and a rubber, which excludes components that materially affect the novel and basic properties of the product. In the present situation, this claim language excludes the presence of a cross-linking agent which is required by Itoh '786 in order to attain the basic properties exhibited by the thermoplastic elastomer described by Itoh '786. In addition, one object of the present invention is to provide a method of producing a composition which exhibits a uniform component ratio which is difficult to achieve if a cross-linked rubber is employed as in Itoh '786. Consequently, significant patentable distinctions exist between the present invention and Itoh '786 such that the above-noted rejection based on this reference should be withdrawn.

It is submitted that all of the presently pending claims define patentable subject matter such that the present application should be placed into condition for allowance.

Conclusion

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) respectfully petition(s) for a one (1) month extension of time for filing a reply in connection with the present application, and the required fee of \$120.00 is attached hereto.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Andrew D. Meikle (Reg. No. 32,868) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees

required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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By 

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Attachment(s) :